

## Highly Dependable Systems (2022-23)

### Paper presentations

In this component of the course requirements, each group will present a recent research paper, and the students in the group will lead the ensuing discussion. All presentations will take place in a lecture during the week of April 10-14.

### Logistics

You will work using the same groups as for the course project. Please sign up for a paper by choosing either from the proposed reading list or by sending email to the course instructors with your own proposal for approval. In each campus, different groups will have to choose different papers, on a first come first serve basis. The reading list and sign up form are available in the following link. (Please select the paper you want to present and be mindful that each group must select a paper from the campus the group is registered in).

[https://docs.google.com/spreadsheets/d/1oq13yegDxsABL1t8gfwUB5zBebc3V7zGgEph\\_QCh-NE/edit?usp=sharing](https://docs.google.com/spreadsheets/d/1oq13yegDxsABL1t8gfwUB5zBebc3V7zGgEph_QCh-NE/edit?usp=sharing)

Also please sign up for presenting in one of the two lectures. To sign up, please add your preferential choice in the doodle below, indicating your group number as the name of the participant. There are a limited number of slots per lecture (about 11 in AL and 9 in TP), and we will handle the requests on a first come first serve basis. Groups that have students from both AL and TP must present in one of the TP lectures, for load balancing.

<https://framadate.org/s8OQ85lrTeULpNsz>

### Presentation format

The presentation must not exceed 6 minutes, roughly equally divided among all member of the group, followed by 4 minutes of discussion, led by the group members. The presentation should include the following three main parts:

- Summary
- Review
- Discussion points

#### Part 1 – Summary

This part must not exceed 4 minutes of your presentation. It should cover the following aspects:

## Part 1.1 – introduction / motivation

- State problem definition in a clear, crisp way
- Motivate relevance and difficulty of the problem
- Sometimes summarize key ideas and contrast to main existing work
- Explain what are the main contributions
- Roadmap can provide a nice transition to the rest of the presentation

## Part 1.2 – main body / details

- Core of the presentation
- Most important hint: focus on the "why" before explaining the "how"
- Biggest challenge: finding the right level of abstraction
- Sometimes you need to choose one key technique and only briefly mention others
- Finish with an evaluation / discussion of the results

## Part 1.3 – related work

- Detailed analysis of existing solutions often omitted for time constraints...
- Still, it is important to:
  - highlight what's new
  - provide background on solutions evaluated in the experimental study
  - (and be ready to answer questions on other related work during the Q&A session)

## Part 2 – Review

This part provides a critical assessment of the contributions of the paper, as if you were determining whether to accept or reject a paper to a conference/journal, and trying to convince the other members of the program committee (or in this case, the other classmates) of your opinion. Reviews are also important to convey feedback to the authors, so it is important to be constructive in this part of your presentation.

Typical structure of a review:

- Summary of the paper, state the contributions (can omit this from the presentation, given that it was covered in part 1)
- Positives
- Negatives
- Specific comments (elaborate on the positive and negative points)
- Conclusion (overall assessment, accept or reject)

Specific comments should cover most of the following:

- Novelty
- Writing quality
- Technical soundness
- Unaddressed issues
- Insights

- Likely to generate interest/discussion?

It is also important to try keep in mind the following:

- Reviewers are in a position of power: use it cautiously and in a fair way
- Always try to be constructive
- Still, raise all the concerns
- acknowledge your own limitations, namely regarding expertise
- Bear in mind that you might have misunderstood the ideas

### Part 3 – discussion points

You should conclude the presentation with a set of open questions, directed to the audience, covering points that might generate an interesting discussion. These may include, for example, the following:

- Research questions that this work opens or did not address
- Practical applicability of this work
- Assumptions that may be more difficult to hold in practice
- Key ideas that may be applicable in other settings

### Final advice

To conclude, we provide some generic points of advice. In particular, your presentation should:

- Identify the main ideas
  - Focus on differentiating aspects vs existing work
- Not overload with details
  - Motivate subsequent reading, ease comprehension
  - Do not alienate audience
- Be structured in distinct parts
  - Clearly identified, each part with its clear own goals, fluid transitions.
- Take a top-down approach
  - Always provide the high level context first, before delving into details

Make sure your computer works with the room projector before your presentation slot. Time is precious and you don't want to spend it trying to make the projector work.

### Evaluation criteria

You will be evaluated based on the following criteria:

- Quality of the presentation (slides and delivery)
- Quality of content, namely the critical analysis of the work
- Quality of the discussion, and the way your group handles the follow-up questions.

## **Appendix – typical structure of a research paper**

### **Abstract**

Summary of the main ideas

### **Introduction**

Context

Problem

Key aspects of the solution

Summarize results

Overview and roadmap of the rest of the work

Meant to captivate the reader to read the rest

### **Related Work**

Critical/comparative analysis of previous work

Serves as starting point to describe your contributions

Do not bash previous work, it's better to stand on the shoulders of giants

Can also be placed later in the paper, before conclusions

Before:

- + allows to motivate early on your solution by comparison

- + clarify what is new soon

- cannot detail the technical comparison, as your solution was not presented yet

After:

opposite pros/cons

### **Solution**

Architecture/Design/Implementation

Longest and most detailed part of the paper

Important to take a top-down approach

Important to present the "why" before the "how"

### **Evaluation**

Qualitative and quantitative analysis of the solution's performance

Sometimes also evaluate metrics other than performance

Answers the question of whether the solution works

### **Conclusions**

Summary, recall key aspects in the evaluation, identify interesting research questions opened by your work

### **Bibliography**

Include only articles that were explicitly cited in the text body.